

Abstract

The present invention provides a method of forming lightly doped drains. The method consists of providing a semiconductor structure and an insulating layer formed on the semiconductor structure. A conductive layer is formed on the insulating layer and a photo resist layer, having a transferred pattern, is formed on the conductive layer. Next, by using the photo resist layer as a first mask, a portion of the conductive layer is removed to expose a portion of the insulating layer. By using the photo resist layer together with the conductive layer as a second mask, multiple first ions are implanted into the semiconductor structure. A portion of the conductive layer is isotropic etched to result in undercut of the conductive layer under the photo resist layer. After the photo resist layer is removed, multiple second ions are implanted into the semiconductor structure to form the lightly doped drains by using the undercut conductive layer as a third mask.